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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/23/2003

Robert Bowser

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TUCKER ELLIS & WEST LLP  
1150 HUNTINGTON BUILDING  
925 EUCLID AVENUE  
CLEVELAND, OH 44115-1414

EXAMINER

HALIYUR, VENKATESH N

ART UNIT

PAPER NUMBER

2619

NOTIFICATION DATE

DELIVERY MODE

09/30/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@tuckerellis.com

christopher.luoma@tuckerellis.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/692,380	<b>Applicant(s)</b> BOWSER ET AL.	
	<b>Examiner</b> VENKATESH HALIYUR	<b>Art Unit</b> 2619	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 (8-9, 13, 16, 23-32 are canceled) is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-12, 14, 15, 17-22 and 34 is/are rejected.
- 7) ☐ Claim(s) 33, 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/19/2008 has been entered.

2. The amendment filed on 07/03/2008 has been considered but is ineffective to overcome Parker et al and Kiko et al references. However amendments necessitated a new ground(s) of rejections as made in this office action using Parker et al, Kiko, Cohen and a newly found Lamb et al reference. Rejection follows.

3. Claims 1-35 are pending in the application. Claims 8-9, 13, 16, 23-32 are canceled. Claims 34-35 are new.

### ***Claim Rejections – 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the

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time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al [US Pub: 2004/0164619] and Kiko [US Pub:2003/ 0068033] further in view Lamb et al [US Pat: 6,449,348].

Regarding claim 1, Parker et al disclosed a method and system (**Figs 1-3, 0019-0024**), comprising: receiving a power signal from a power input (**input 48V DC, Fig 3, para 0022**); receiving a data signal from a data input (**Ethernet RJ-45, item 230 of Fig 2, para-0023**); sending a discover signal (**detection signal, para 0043**) to the network device on a second medium (**switching device, item 110 of Fig 1**); receiving a discovery response (**status information, para 0027**) from the network device via the second medium; and upon receipt of the discovery response, concurrently transferring the power signal, and the data signal on the second medium (**PoE, power-over-ethernet circuit, para 0020**) to the network device (**switching device, item 110 of Fig 1, para 0046-0053**) and disclosed the step of receiving a second data signal and multiplexing the data signal (**receive data over RJ-45 ethernet port**) and the second data signal for transmission on the shared medium (**para 0022-0023**) , but fails to disclose concurrently transferring the power signal, the primary communication signal, and the data signal on a shared medium to the network device. However, Kiko disclosed a method of concurrently transferring power signal, control signal and data signal through an integrated wiring system connected to a network device (**item 228 of Fig 2, para 0041-0042, para 0048**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of concurrently transferring power signal, control signal and data signal through an integrated wiring system as taught by Kiko in the system of Parker et al to concurrently transferring power signal, primary communication signal and data signal through an integrated wiring system connected to a network device.

Both Parker et al and Kiko fails to disclose receiving an Ethernet primary communication signal and sending the Ethernet primary communication signal to a network device on a first medium. However, Lamb et al disclosed a method for receiving and sending Ethernet primary communication signal to a network device on a first medium (**item 130 of fig 3, col 7, lines 48-60, col 8, lines 52-57**). Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of receiving and sending Ethernet primary communication signal to a network device on a first medium as taught by Lamb et al in the system of Parker et al as modified by Kiko to receive an Ethernet primary communication signal and sending the Ethernet primary communication signal to a network device on a first medium. Hence, one is motivated as such in order to concurrently transfer power, communication and data signals over a common wiring medium to communicate with a network device that provides cost advantages by eliminating the need for additional wiring needed for each of these signals to be transferred over separate wiring medium.

Regarding claim 2, Parker et al disclosed the step of modulating the data signal **(IP data)** in a manner interoperable with the power signal **(para 0022-0023)**.

Regarding claim 3, Parker et al disclosed the step of receiving an Ethernet secondary data signal.

Regarding claim 4, Parker et al disclosed the step of multiplexing the data signal and the second data signal for transmission on the shared medium.

Regarding claim 5, Parker et al disclosed the step of concurrently transferring the Ethernet secondary data signal with the power signal, and data signal on the shared medium.

Regarding claim 6, Parker et al disclosed the steps of: receiving an Ethernet secondary data signal and converting the Ethernet secondary data signal into a bit-stream second data signal **(data transfer activity between switch and device, para 0023)** and the step of multiplexing the data signal and the second data signal for transmission on the shared medium **(transferred over PoE circuits over LAN, para 0019-0027,0060)** but fails to disclose concurrently transferring the second data signal on the second medium with the power signal and the data signal. However, Kiko disclosed a method of concurrently transferring power signal, control signal and data signal through an integrated wiring system connected to a network device **(item 228 of Fig 2, para 0041-0042, para 0048)**. Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of concurrently

transferring power signal, control signal and data signal through an integrated wiring system as taught by Kiko in the system of Parker et al to concurrently transferring power signal, primary communication signal (**serial control information signal, para 0045**) and data signal through an integrated wiring system connected to a network device. Hence, one is motivated as such in order to concurrently transfer power, communication and data signals over a common wiring medium to communicate with a network device that provides cost advantages by eliminating the need for additional wiring needed for each of these signals to be transferred over separate wiring medium.

Regarding claim 7, Parker et al disclosed the step of multiplexing the data signal and the second data signal for transmission on the shared medium.

6. Claims 10-12, 14-15, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al [US Pub: 2004/0164619] and Cohen et al [US Pat: 6,404,861] further in view of Kiko [US Pub: 2003/ 0068033].

Regarding claim 10, Parker et al disclosed an apparatus (**Figs 1-3, 0019-0024**), comprising: a power input for receiving a power signal (**input 48V DC, Fig 3, para 0022**); a primary communication input for receiving an Ethernet primary communication signal; a data input for admitting a data signal (**Ethernet RJ-45, item 230 of Fig 2, para-0023**); Parker et al disclosed the limitations for transmitting the data signal with the power signal (**PoE, power-over-Ethernet circuit, peripheral device, item 120 of Fig 1, 0020-0023, 0060**) and wherein the Ethernet primary communication signal is

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provided to a network device on a first medium (**para 0023**) but fails to disclose a modem for modulating the data signal and the power signal which are provided to the network device on a second medium. However, Cohen et al disclosed a modem (**item 220 of Fig 2A**) for sending data signal (**item 224 of Fig 2A**) and Ethernet signal (**item 214 of Fig 2A**) over a DSL modem (**item 220 of Fig 2A, col 6, lines 24-62**). Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of a modem for modulating the data signal and the data signal over a modem as taught by Cohen et al in the system of Lamb et al to provide both data signal and Ethernet signal over a modem to a network device.

Parker et al disclosed sending power and data over a separate twisted pairs (**para 0023-0025, Fig 3**), but both Parker et al and Cohen et al fail to disclose the limitation of wherein the data signal and the power signal are provided to the network device on a second medium. However Kiko et al disclosed a method of sending both power signals (**item 406 of Fig 4**) and data signals (**item 430 of Fig 4**) over a second medium (**item 228 of Fig 4**) to a network device (**para 0051-0052 Figs 3-4**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of sending power signal and the data signal over a second medium as taught by Kiko et al in the system of Lamb et al as modified by Cohen et al to provide both data signal and power signal over a second medium to a network device.



Hence, one is motivated as such in order for cost and competitive advantage to use common medium to provide both data signal and power signal over the same medium to a network device instead of providing separate mediums for these signals.

Regarding claims 11, Parker et al disclosed means for connecting transmit and receive transformers to Ethernet jacks (**RJ-45 jacks**) in different configurations for transferring data and power signals (**para 0019-0024, 0064-0065**), but fails to disclose means for modulating is a frequency shift-keying scheme. However, Kiko disclosed a modulator (**GFSK modem chip, para 0052**) to modulate signals using frequency shift-keying scheme to transmit digital data (**para 0058**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use modem with frequency shift keying technique to modulate digital signals as taught by Kiko in the system of Parker et al as modified by Cohen et al to modulate data signal and power signal over a shared medium. Hence, one is motivated as such in order to modulate digital data over a transmitting medium using a FSK modem on a chip for both cost and space saving advantage.

Regarding claims 12, Parker et al disclosed that the data is serial control data (**para 0045**).

Regarding claims 14, Parker et al disclosed a micro terminal server to convert the Ethernet secondary data signal to a bit stream.

Regarding claim 15, the Ethernet primary communication signal is provided to a network device on a first medium (**para 0023**) but fails to disclose a second communication input for receiving an Ethernet secondary data signal into the apparatus;

a multiplexer to combine the data signal and secondary data signal for transmission on the second medium; and wherein the modem modulates the secondary data signal with the data signal and the power signal; and wherein the data signal, secondary data signal, and the power signal are concurrently transmitted on the second medium.

However Cohen et al disclosed a second communication input for receiving an Ethernet secondary data signal into the apparatus (**item 260 of Fig 2B**); a multiplexer (**item 252 of Fig 2B**) to combine the data signal and secondary data signal for transmission on the second medium; and wherein the modem modulates the secondary data signal with the data signal and the power signal (**col 8, lines 6-31**); and wherein the data signal, secondary data signal, and the power signal are concurrently transmitted on the second medium (**col 6, lines 24-62**). Parker et al disclosed sending power and data over a separate twisted pairs (**para 0023-0025, Fig 3**), but both Parker et al and Cohen et al fail to disclose the limitation of wherein the data signal and the power signal are provided to the network device on a second medium. However Kiko et al disclosed a method of sending concurrently power signals (**item 406 of Fig 4**) and data signals (**item 430 of Fig 4**) and secondary data signal over a second medium (**item 228 of Fig 4**) to a network device (**para 0051-0052 Figs 3-4**)

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of sending power signal, data signal and secondary data signal over a second medium as taught by Kiko et al in the system of Parker et al as modified by Cohen et al to provide both data signal, secondary data signal and power signal over a second medium to a network device.

Regarding claims 17, Parker et al disclosed that the power signal is sourced from a DC power source (**para 0024**).

Regarding claims 18-19, Parker et al disclosed that the data input comprises an RJ-45 jack (**Ethernet Jacks, items 364 of Fig 6**), wherein the RJ-45 jack connects the data input to a network (**para 0022-0023**) and the RJ-45 jack further includes any necessary transformers for impedance matching, isolation, and noise rejection (**para 0063-0064**).

Regarding claims 20-21, Parker et al disclosed sensing circuits (**voltage sensing circuit, VR\_SESN, item 320 of Fig 3**) which detect whether the network device connected to the network port requires power and the sensing circuits require power (**para 0043**) and wherein the sensing circuits couple power and data signals and transmit them to the network device on the shared medium (**PoE, para 0022-0027**).

Regarding claim 22, Parker et al disclosed that the sensing circuits detect that the network device does not require power (**devices not adapted to receive PoE**) and wherein the sensing circuits allow for passive transmission of data signals only (**para 0060**).

7. Claims 34, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamb et al [US Pat: 6,449,348] in view of Cohen et al [US Pat: 6,404,861].

Regarding claim 34, An apparatus (**Fig 3**), comprising: a power input for receiving a power signal (**item 340 of Fig 3**); a primary communication input for receiving an Ethernet primary communication signal (**item 320 of Fig 3**); a data input for

admitting a data signal (**computer data of item 320 of Fig 3**); a second primary communication input for receiving an Ethernet secondary communication signal (**data portion of item 320 of Fig 3, col 8, lines 20-41**); a first output coupled on a shared medium to the network device (**item 260 of Fig 3**); and a second output coupled on a shared medium to the network device (**item 370 of Fig 3**); and means for modulating the data signal and Ethernet secondary communication signal with the power signal (**item 200 of Fig 3, col 8, lines 42-51**); wherein the Ethernet primary communication signal is provided to the network device on the first output (**item 130 of fig 3, col 8, lines 52-57**); and wherein the means for modulating provides the power signal (**item 322 of Fig 3, col 8, lines 58-67, col 9, lines 1-15**), data signal and Ethernet secondary communication signal on the second output (**item 107 of Fig 1, col 4, lines 22-51**).

Lamb et al disclosed the feature of inherently combining the data and Ethernet packets over the second output but fails to explicitly disclose that the second output provides both data signal and Ethernet secondary communication signal. However, Cohen et al disclosed a method for outputting separate data signal (**item 224 of Fig 2A**) and Ethernet signal (**item 214 of Fig 2A**) received over the DSL modem (**item 220 of Fig 2A, col 6, lines 24-62**). Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of sending both data signal and Ethernet secondary communication signal over the second output as taught by Cohen et al in the system of Lamb et al to provide both data signal and Ethernet secondary communication signal over the second output of a network device. Hence, one is motivated as such in order for cost and competitive advantage to use common

medium to communicate both data signal and Ethernet secondary communication signal over the same medium to a network device instead of providing separate mediums for these signals.

### ***Response to Arguments***

8. Applicant's argument, see remarks filed on 07/03/2008 with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

9. Claims 33, 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art fails to teach and render obvious the limitations as recited in claims 33, and 35:-

“a discovery signal generator; and a discovery signal detector; wherein the discover signal generator is responsive to send a discovery signal to the network device through the means for modulating on the second output; and wherein the discovery signal detector is configured to receive a discovery response signal that is responsive to the discovery signal via the means for modulating; and

wherein the means for modulating is responsive to provide the power signal to the network device after receiving the discover response signal.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached @ (571)-272-7493. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

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Examiner, Art Unit 2619

/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2619